

**Last Date for Governing Board Action:**  
April 12, 2001

### **Water Use Staff Review Summary**

**Application Number:** 000726-11  
**Permit Number:** 36-01023-W  
**Project Name:** BONITA GRANDE SAND COMPANY  
**Water Use Permit Status:** EXPIRED/PREVIOUSLY PERMITTED  
**Environmental Resource Permit Status:** PERMITTED (No. 36-00764-S)  
**Right Of Way Permit Status:** NOT APPLICABLE  
**Location:** LEE COUNTY, S17,20/T47S/R26E  
**Applicant's Name and Address:** BONITA GRANDE SAND COMPANY  
25501 BONITA GRANDE DRIVE  
BONITA SPRINGS, FL 34135

**Purpose:**

The purpose of this application is to obtain a dewatering water use permit No. 36-01023-W for an expired/previously permitted mining operation. The mining operation is located within Lee County as depicted in Exhibit No. 2. The applicant is requesting a maximum daily allocation of 7.5 MG and an annual allocation of 2300 MG. There are 3 existing and 3 proposed surface water pumps to be used to dewater the proposed 64.8 acre mining pit.

## Staff Recommendations

**Date Of Issuance:** April 12, 2001  
**Permit Duration:** 3.00 Years  
**Expiration Date:** April 12, 2004  
**Water Use Classification:** Dewatering  
**Sources:** **Surface Water from:** On-site Borrow Pit(s)

### Recommended Allocation:

**Annual Allocation:** 2,300 Million Gallons (MG)  
**Maximum Daily Allocation:** 7.5 Million Gallons (MG)

### Existing Withdrawal Facilities - Surface Water

Source: On-site Borrow Pit(s)  
3 - 12" X 130 HP X 6000 GPM Submersible Pumps

### Proposed Withdrawal Facilities - Surface Water

Source: On-site Borrow Pit(s)  
2 - 12" X 125 HP X 5500 GPM Submersible Pumps  
1 - 12" X 130 HP X 6000 GPM Submersible Pump

### Rated Capacity

<u>Source</u>	<u>Status Code</u>	<u>GPM</u>	<u>MGD</u>	<u>MGM</u>	<u>MGY</u>
On-site Borrow Pit(s)	E	18,000	25.92	788.0	9,461
On-site Borrow Pit(s)	P	17,000	24.48	744.2	8,935
<b>Totals:</b>		<b>35,000</b>	<b>50.40</b>	<b>1,532.2</b>	<b>18,396</b>

## **Project Description**

This application is to request an individual dewatering permit to allow for dewatering associated with a mining operation. The project site is located within Lee County. The proposed area to be dewatered is a 64.8 acre area located in the southwest corner of Section 20, Township 47 South, Range 26 East.

The applicant has estimated the duration of the dewatering operation to be 18 months. Staff recommends a permit duration of three years, which is the maximum duration allowable under District criteria for a dewatering permit (Chapter 40E-2.321, Florida Administrative Code), in order to ensure the successful completion of all lake construction and meet contingencies.

Backhoes will be used to remove the overburden during the dewatering operation. Draglines will be used to excavate the pit after the overburden has been removed. Based on information provided by the applicant, the Water Table contains an upper layer of unconsolidated sands and a lower layer of limestone. Land surface elevation in the project area is approximately +15 feet NGVD. The wet season water table elevations are estimated to be approximately +15 feet NGVD and the dry season water table elevations are estimated to be +11 to +12 feet NGVD. The maximum depth of dewatering will be -12 feet NGVD, or 27 feet below land surface (bls).

The 64.8 acre site has been divided into four cells that are each 16.2 acres in size. The dewatering effluent in each cell will be directed to infiltration canals along the boundary of the dewatered area which connect to the large lake on the east side of the property. The western boundary of Cells 1 and 3 and the southern boundary of Cells 3 and 4 will match that of the lake excavation area outlined in the surface water management permit. Dewatering activities will not take place outside of the lake excavation area. Work will generally be conducted 10 hours per day, 6 days a week, 52 weeks per year.

Pursuant to Limiting Condition No. 17, all dewatering water shall be retained on the project site. There shall be no off-site discharge of dewatering water.

## **Hydrologic Modeling**

### **Modflow**

The requested dewatering withdrawal for Bonita Grande Sand Company was evaluated using the ground water flow code ModFlow, developed by the United States Geological Survey (USGS), which simulates three-dimensional ground water flow. The model simulated has two layers, each representing a portion of the Water Table aquifer at the site. The design of the modeling layers was based on subsurface geotechnical information collected during the drilling of test borings at the site. Layer one represents the surficial sand layer and layer 2 represents the underlying limestone of the Water Table aquifer. The model grid has an irregular spacing that ranges from 20 feet along the perimeter of the proposed quarry to 6000 feet at the model border.

In order to calculate the maximum dewatering rate needed at the site and to estimate the potential for adverse impacts associated with dewatering and potential flooding, two modeling scenarios were simulated by the applicant.

Based on the results obtained in modeling scenario one, the rate at which water would need to be withdrawn from the quarry to maintain the -12 feet NGVD water level is approximately 2.5 MGD. However, the applicant is requesting a safety factor of 3 times, or 7.5 MGD. The safety factor takes into consideration the potential of rainfall occurring during the wet season.

The model evaluates the hydraulic impact of dewatering from the quarry under steady state conditions. The water withdrawn from the pit (7.5 MGD) was recharged into canals and other surface water bodies in the vicinity of the quarry. These water bodies include surrounding canals, the storage pond, the lake on the eastern side of the quarry, and the canal on the western side of the quarry. Drain cells within the quarry were used to represent the dewatering process.

## **Impact Assessments**

### **Water Resource Availability**

#### On-site Borrow Pit(s)

A maximum water level depth of 27 feet below land surface is being requested. Based on information obtained from the James M. Montgomery Consulting Engineers, Inc. Technical Report, entitled "Lee County Water Resources Management Project", the Water Table aquifer extends to a depth of 50 feet below land surface.

Based upon the proposed depth of dewatering, return flow to the aquifer and the results obtained from the previously discussed modeling effort, the sustained yields of the Water Table aquifer is not expected to be exceeded as a result of the withdrawal of proposed recommended allocation from the Water Table aquifer.

### **Existing Legal Users**

#### On-site Borrow Pit(s)

The nearest existing legal user is Stoney's Enterprises (Permit No. 36-01212-W). This nearest existing legal user is permitted to withdraw irrigation water from 5 primary and 3 back-up Water Table aquifer wells in order to irrigate 320 acres of citrus. The nearest well is located adjacent to the Bonita Grande Sand mining operation. Based on the results obtained from the modeling effort, no additional drawdown is estimated to occur at this user within the Water Table aquifer as a result of the withdrawal of the recommended allocation.

The potential for adverse impacts to occur to existing legal users as a result of the withdrawal of the recommended allocation is considered to be minimal.

### **Legal Domestic Users**

#### On-site Borrow Pit(s)

The location of the nearest domestic user of the Water Table aquifer is not known. For purposes of analysis, it is assumed that the nearest domestic well is located at the project boundary. The land surface in the project vicinity has an elevation of approximately +15 feet NGVD. Based on the modeling results, no additional drawdown is anticipated to occur at the property boundary as a result of the withdrawal of the recommended allocation. Consequently, the water level at the project boundary is expected to remain within 20 feet of land surface, which does not exceed the lifting capability of a centrifugal well pump.

The potential for adverse impacts to occur to existing legal domestic users as a result of the withdrawal of the recommended allocation is considered minimal.

### **Saline Water Intrusion**

#### On-site Borrow Pit(s)

The project site is located 6 miles from the coast. No water quality data are available for the site however, the applicant has indicated that the Water Table aquifer in this area is known to contain fresh water. Based on water level monitoring well L 5746, located in Section 15, Township 47S, Range 25E, the average dry season water elevation in the Water Table is 10 feet NGVD. The applicant has estimated that dry season and wet season water levels are approximately 11 and 15 feet NGVD, respectively.

The potential for significant saline intrusion or upconing to occur as a result of the withdrawal of the recommended allocation is considered minimal.

### **Wetlands**

#### On-site Borrow Pit(s)

There are on-site and off-site wetland areas located within the vicinity of the project site. These wetland areas are discussed in the staff report for the surface water management permit (Application No. 990122-13). The applicant has indicated that all discharge water is to be maintained on-site. Water is to be routed to maintain adequate water levels in the Water Table aquifer between the dewatering sites and wetland areas. Based on the modeling results, less than one foot of drawdown is estimated to occur as a result of the withdrawal of the recommended 7.5 MG maximum daily allocation. Details concerning the wetland monitoring program are discussed within the "Additional Information" section.

The potential for adverse impacts to occur to protected wetland environments as a result of the withdrawal of the recommended allocation is considered minimal.

### **Source Of Pollution**

#### On-site Borrow Pit(s)

There are no known sources of pollution in the vicinity of the project site that are classified by the Department of Environmental Protection (DEP) as groundwater contamination sites. The potential for the induced movement of contaminants from known sources of pollution to occur as a result of the withdrawal of the recommended allocation is considered minimal.

### **Additional Information**

#### **Wetland Monitoring:**

This project has an existing mitigation, monitoring and maintenance plan under Surface Water Management (SWM) Permit 36-00764-S. The original plan will remain in effect and provides for three monitoring stations along the eastern berm line and a staff gauge located adjacent to station No. 1. Rainfall is monitored weekly and staff gauges are read monthly. This plan was based on proposed restoration and preservation mitigation areas adjacent to Flint Pen Strand and external to the diked project area.

Based on the proposed dewatering, an additional monitoring station No. 4 will be provided in preserve area 18-22, including mitigation area K. An additional staff gauge will be provided at this station and in the adjacent lake. A shallow monitoring well will be installed just west of mitigation area K to measure the depth to the water table at the location during the dewatering operation. An estimate of the average monthly dewatering depth for the current excavation cell, along with monthly water elevation readings of the recharge lake, the mitigation/preservation area, and adjacent groundwater elevation will be maintained in addition to monitoring of the external wetland area. Monitoring at Station 4 will be conducted in accordance with the SWM guidelines and will be conducted annually for the duration of the dewatering phase of the project. Photographs and vegetative sampling will be conducted concurrently with the external program. A report will be filed annually and any corrective/remedial actions will also be summarized. A new report will be provided in June 2001. Subsequent monitoring reports will be provided annually in October contemporaneously with the off-site report.

#### **Conditions of Issuance:**

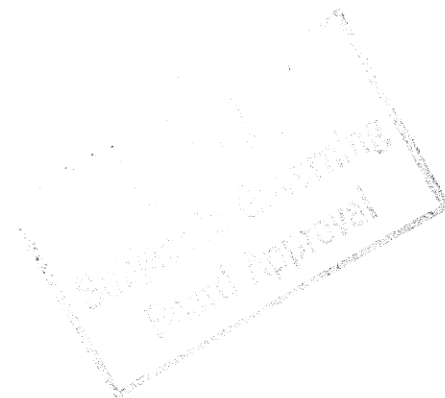
Pursuant to Limiting Condition No. 17, all dewatering water shall be retained on the Permittee's land. Off-site discharge of dewatering effluent shall not be made. Pursuant to Limiting Condition No. 24, prior to withdrawing water as authorized by this Permit, the Permittee shall provide the results of the calibration testing of the identified water accounting method(s) and equip all existing and proposed withdrawal facilities with approved water use accounting method(s). Pursuant to Limiting Condition No. 25, every two years from the date of Permit issuance, the Permittee shall submit re-calibration data on each water pumping accounting facility. Pursuant to Limiting Condition No. 26, monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly.

### **Additional Information**

Maximum Depth of Dewatering and Maximum Depth of Excavation:

The maximum depth of dewatering and excavation will be -12 feet NGVD, or 27 feet below land surface (bls). No off-site discharge is permitted.

## Recommendations

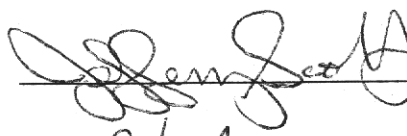



**Application Number:** 000726-11  
**Permit Number:** 36-01023-W  
**Date Of Issuance:** April 12, 2001

### Recommendations:

Staff recommends approval of a water use permit for dewatering water supply. Withdrawals are from on-site borrow pit(s) via three existing withdrawal facilities and three proposed withdrawal facilities. The use is reasonable-beneficial, will not adversely impact presently existing legal users and is consistent with the public interest. The use is further subject to 30 limiting conditions.

**Application Reviewer:**

Jeffery Scott

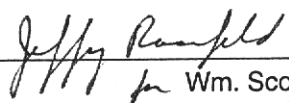
**Date:** 3/23/01

**Supervisor:**

Rick F. Bower, P.G.

**Date:** 3/28/01

**Water Use Department:**



Wm. Scott Burns, P.G.

**Date:** 4/3/01

## Limiting Conditions

1. This permit shall expire on April 12, 2004.
2. Application for a permit modification may be made at any time.
3. Water use classification:

Dewatering water supply

4. Source classification:

Surface Water from:  
On-site Borrow Pit(s)

5. Annual allocation shall not exceed 2300 MG.

Maximum daily allocation shall not exceed 7.5 MG.

6. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.
7. Withdrawal Facilities:

Surface Water - Existing:

3 - 12" x 130 HP X 6000 GPM Submersible Pumps

Surface Water - Proposed:

1 - 12" x 130 HP X 6000 GPM Submersible Pump  
2 - 12" x 125 HP X 5500 GPM Submersible Pumps

8. Permittee shall mitigate any adverse impacts to existing legal uses as a consequence of withdrawals permitted herein. When adverse impacts occur, or is imminent, the District reserves the right to curtail withdrawal rates. Adverse impacts are:
  - A) reduction in well water levels that impairs the ability of an adjacent well, including a domestic well, lawn irrigation well, or public water supply well, to produce water by 10% or greater,
  - B) significant reduction in levels in an adjacent water body, such as a lake, pond, or a canal system, that impairs the ability to produce water by 10% or greater,
  - C) saline water intrusion or induced movement of pollutants into the water supply of an adjacent water use, resulting in a significant reduction in water quality, and
  - D) change in water quality caused by the permittee that results in significant impairment or loss of use of a well or water body.
9. Permittee shall mitigate any adverse impact to existing off-site land use as a consequence of withdrawals permitted herein. If increased withdrawals cause an adverse impact on existing land use, the District reserves the right to curtail future withdrawal rates. Adverse impacts are:
  - A) significant reduction in water levels in an adjacent surface water body, including impoundments, to the extent that the designed function of the water body is impaired,
  - B) land collapse or subsidence caused by reduction in water levels; and
  - C) damage to crops and other types of vegetation.
10. If adverse impacts occur to natural resources as a result of the Permittee's water withdrawals, the Permittee shall mitigate for such impacts. When adverse impacts occur, or are imminent, District reserves the right to curtail withdrawal rates. Examples of adverse impacts are:



## Limiting Conditions

- A) reduction in ground water levels that results in significant lateral movement of the fresh water/salt water interface,
  - B) reduction in water levels that adversely impact the hydroperiod of protected wetland environments,
  - C) significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,
  - D) induced movement or induction of pollutants into the water supply resulting in a significant reduction in water quality, and
  - E) significant damage to the natural system including damage to habitat for rare or endangered species.
11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
  12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
  13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
  14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.
  15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: S.F.W.M.D., Supervising Hydrogeologist - Post-Permit Compliance, Water Use Regulation Dept. (4320), P.O. Box 24680, West Palm Beach, FL 33416-4680.
  16. The Permittee is advised that this Permit does not relieve the Permittee of complying with all county, state, and federal regulations governing these operations, maintenance, and reclamation of the borrow pit.
  17. All dewatering water shall be retained on the Permittee's land. Off-site discharge of dewatering effluent shall not be made.
  18. The excavation shall be constructed using sound engineering practice. If the excavation endangers the properties of adjacent owners through erosion, side wall collapse, etc., the Permittee shall cease operation upon notification by the District until a method to prevent such occurrences is found and instituted.
  19. Permittee shall immediately cease dewatering when continued dewatering would create a condition hazardous to the health, safety, and general welfare of the people of the District.
  20. Permittee shall be responsible for clearing shoaling if the Permittee's dewatering operation creates shoaling in adjacent water bodies.
  21. Permittee shall comply with turbidity and general water quality standards for surface discharge into receiving streams, as established by Chapter 62-302, Florida Administrative Code.
  22. Permittee shall not lower the water table below the following depths:
    - 12 Feet NGVD or 27 Feet below land surface
  23. A copy of the permit, its limiting conditions, and dewatering plan is required to be kept on site at all times during dewatering operations by the lead contractor or site manager.
  24. Prior to withdrawing water as authorized by this Permit, the Permittee shall provide the results of the calibration testing of the identified water accounting method(s) and equip all existing and proposed withdrawal facilities with approved water use accounting method(s) pursuant to Section 4.1 of the Basis of Review for Water Use Permit Applications.
  25. Every two years from the date of Permit issuance, the Permittee shall submit re-calibration data on each water pumping accounting facility, for those Permittees whose accounting method(s) require re-

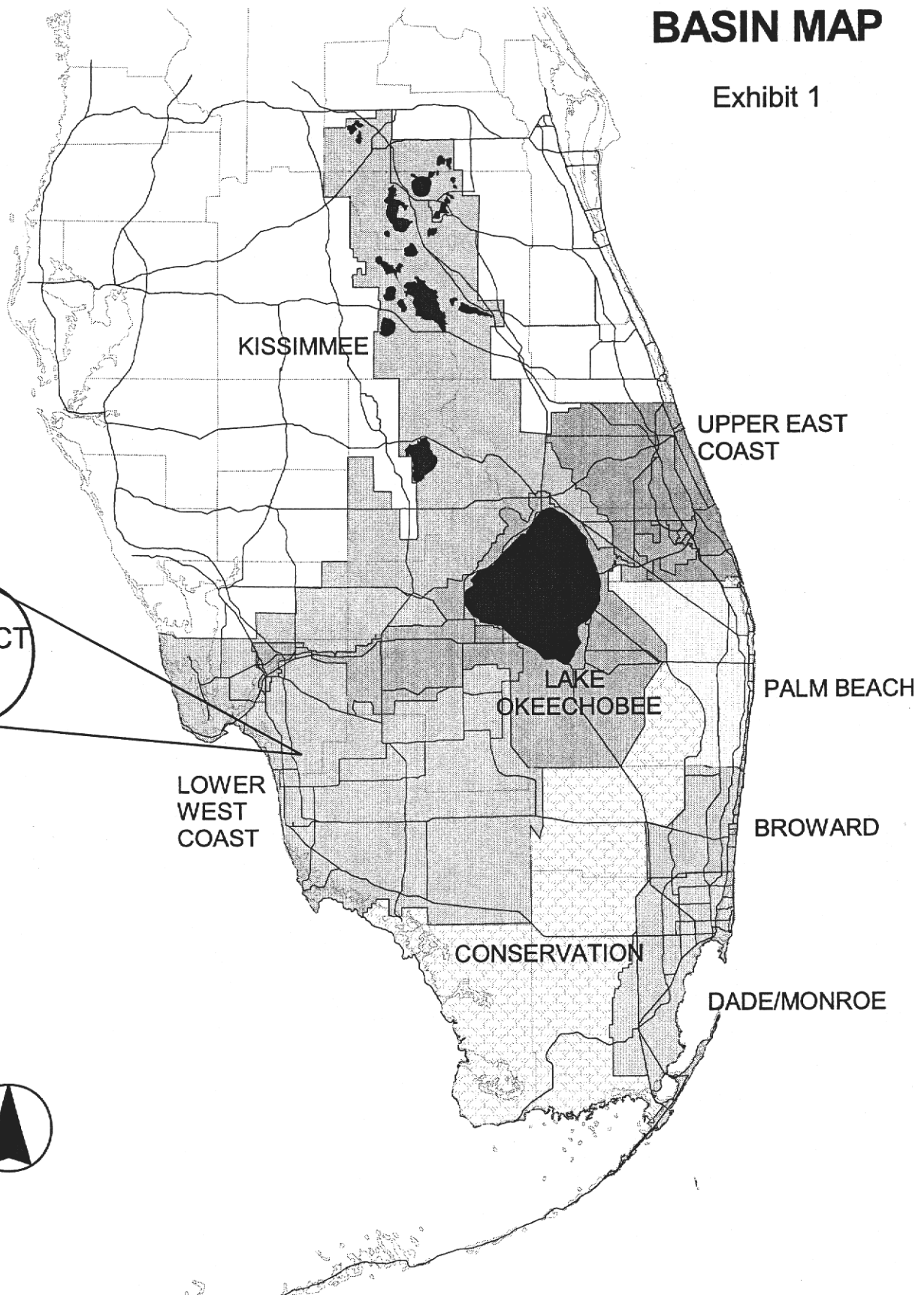
## Limiting Conditions

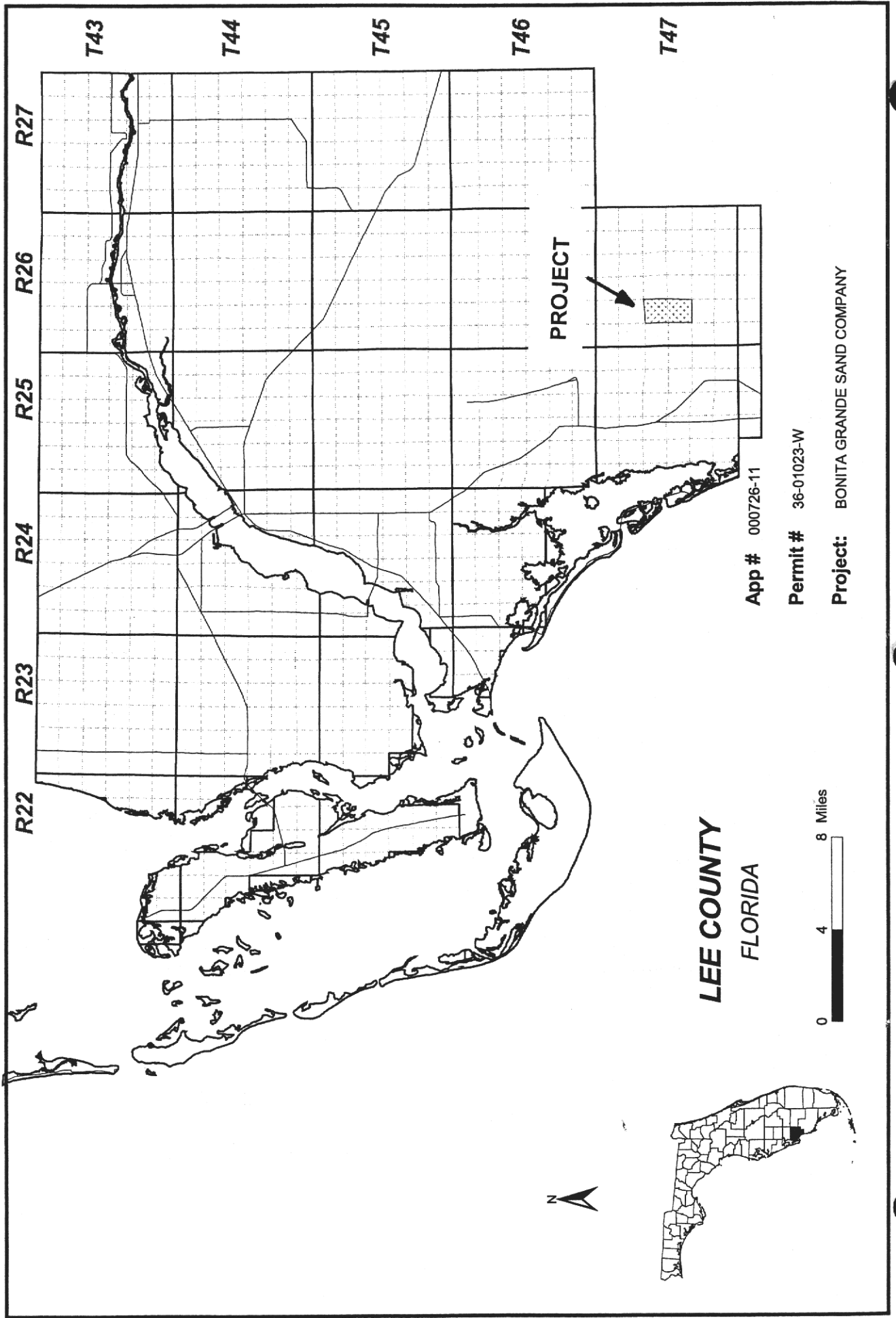
calibration.

26. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.
27. The Permittee shall implement the monitoring program described in the District staff report prepared in support of recommendation for permit issuance.
28. The Permittee shall conduct dewatering activities in adherence to the following operating plan:  
The dewatering effluent in each cell will be directed to infiltration canals along the boundary of the dewatered area which connect to the large lake on the east side of the property. Dewatering activities will not take place outside of the lake excavation area.
29. Prior to initial dewatering, the Permittee shall contact the District to allow for a site visit to verify:
  - A) The water use accounting method used by the contractor and receive results of calibration testing of the identified method.
  - B) The location and design of the recharge trenches and on-site retention areas where dewatering water will be retained.
  - C) The location of monitoring facilities, and
  - D) Other appropriate site-specific issues related to the protection of the resource or other existing legal users.A site visit can be scheduled by contacting:  
South Florida Water Management District, Fort Myers Service Center, 2301 McGregor Blvd, Fort Myers, phone (941) 338-2929 or 1-800-248-1201.
30. Within 30 days of completion of the dewatering operation, the temporary recharge ditches shall be filled and regraded to natural ground elevation, or an elevation approved in the Environmental Resource Permit.

# BASIN MAP

Exhibit 1





PROPERTY  
BOUNDARY

Limit of  
Excavation Area

LAKE





ROAD

CANAL

EXISTING  
LAKE

Quarry

# KEY

-  Canal/Infiltration Trench
-  Road
-  Preserve/Mitigation Areas
-  Direction water is to be discharged.

Water will be discharged from the pit to the canal surrounding the quarry and into the large lake to the east of the quarry.

Please Note: Road, ditch, and lake locations are approximate. The active nature of the mining operation results in constant changes to the property.

EXHIBIT

3



Pr. Name: BONITA GRANDE SAND CO.

Pr. No. FH00-1153

Date: 3/1/01

DWG No. SITEMAP1

Rev. No.

GROUNDWATER  
AND  
ENVIRONMENTAL SERVICES

FIGURE 4. SITE MAP SHOWING THE CANAL AND LAKE SYSTEM AND THE ROUTING OF WATER GENERATED DURING DEWATERING.

TABLE - B

Description Of Surface Water Pumps

Application Number: 000726-11

Pump ID	105227	105229	105230	105231	105232	105233
Name	1	2	3	4	5	6
Map Designator Facility Group						
Existing/Proposed Pump Type	E Submersible	E Submersible	E Submersible	P Submersible	P Submersible	P Submersible
Diameter(Inches)	12	12	12	12	12	12
Pump Capacity(GPM)	6,000	6,000	6,000	5,500	5,500	6,000
Pump Horse Power	130	130	130	125	125	130
Two Way Pump ?	N	N	N	N	N	N
Elevation (ft. NGVD)	-12	-12	-12	-12	-12	-12
Planar Location						
Source						
Feet East	415262	415262	415262	415262	415262	415262
Feet North	741344	741344	741344	741344	741344	741344
Accounting Method	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter
Use Status	Primary	Primary	Primary	Primary	Primary	Primary
Water Use Type	Mining / Dewatering	Mining / Dewatering	Mining / Dewatering	Mining / Dewatering	Mining / Dewatering	Mining / Dewatering
Surface Water Body	On-site Borrow Pit(s)	On-site Borrow Pit(s)	On-site Borrow Pit(s)	On-site Borrow Pit(s)	On-site Borrow Pit(s)	On-site Borrow Pit(s)

Modeling Scenario Description

Project Name: BONITA GRANDE SAND COMPANY    Application Number: 000726-11

Version: 1.0    Scenario: 1

Model Name: Modflow

Model Type: Numerical

**Comments:**

Input Parameters

Dataset Name	Value	Unit	Comments
Thickness (Layer 1)	27	Feet	
Storativity (Layer 1)	.2	Dimensionless	
Vcont (Layer 1 to 2)	.01	1/Day	
Thickness (Layer 2)		Feet	
Hydraulic Conductivity (Layer 2)	40000 Trans	Feet/Day	
Storativity (Layer 2)	.2	Dimensionless	
Vcont (Layer 2 to 3)		1/Day	
Thickness (Layer 3)		Feet	
Hydraulic Conductivity (Layer 3)		Feet/Day	
Storativity (Layer 3)		Dimensionless	
Maximum ET Rate		Feet/Day	
ET Surface		Feet	
ET Extinction Depth		Feet	
Recharge Rate		Feet/Day	
Number of Rows		Number	
Number of Columns		Number	
Number of Stress Periods		Number	
Duration of Each Stress Period		Days	
Number of Time Steps per Stress Period		Number	
Time-Step Multiplier		Number	
Hydraulic Conductivity (Layer 1)	100	Feet/Day	

Withdrawals

Source	Type	Facility ID	Name	Type	East (feet)	North (feet)	Withdrawn (gpd)	Comments
On-Site Borrow Pit(S)	SW	105227	1	Pump	415262	741344	0	
On-Site Borrow Pit(S)	SW	105229	2	Pump	415262	741344	0	
On-Site Borrow Pit(S)	SW	105230	3	Pump	415262	741344	0	
On-Site Borrow Pit(S)	SW	105231	4	Pump	415262	741344	0	
On-Site Borrow Pit(S)	SW	105232	5	Pump	415262	741344	0	
On-Site Borrow Pit(S)	SW	105233	6	Pump	415262	741344	0	

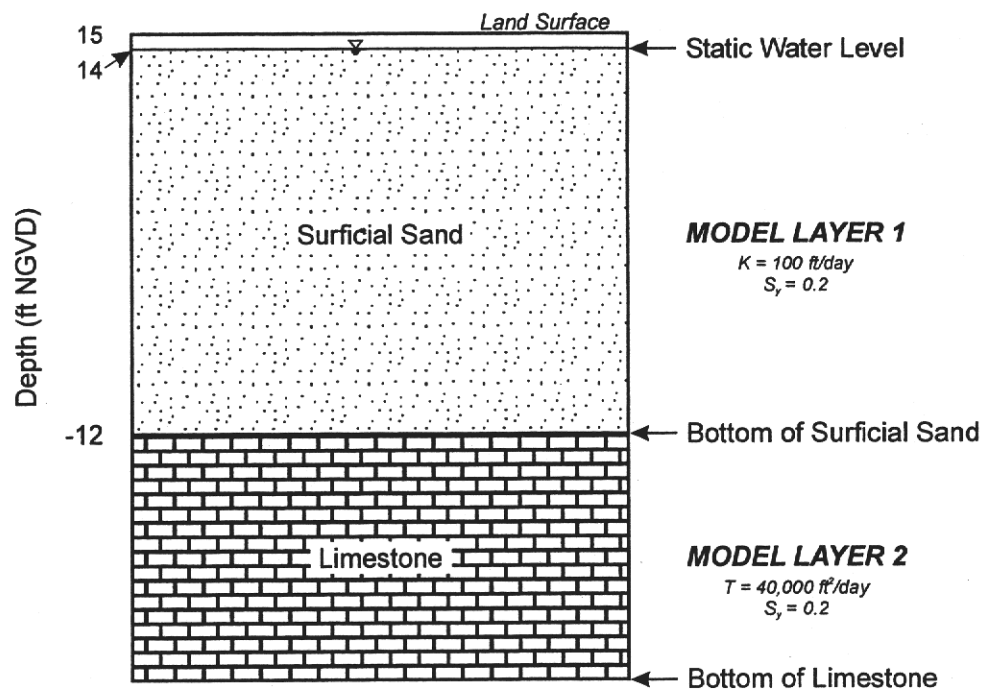
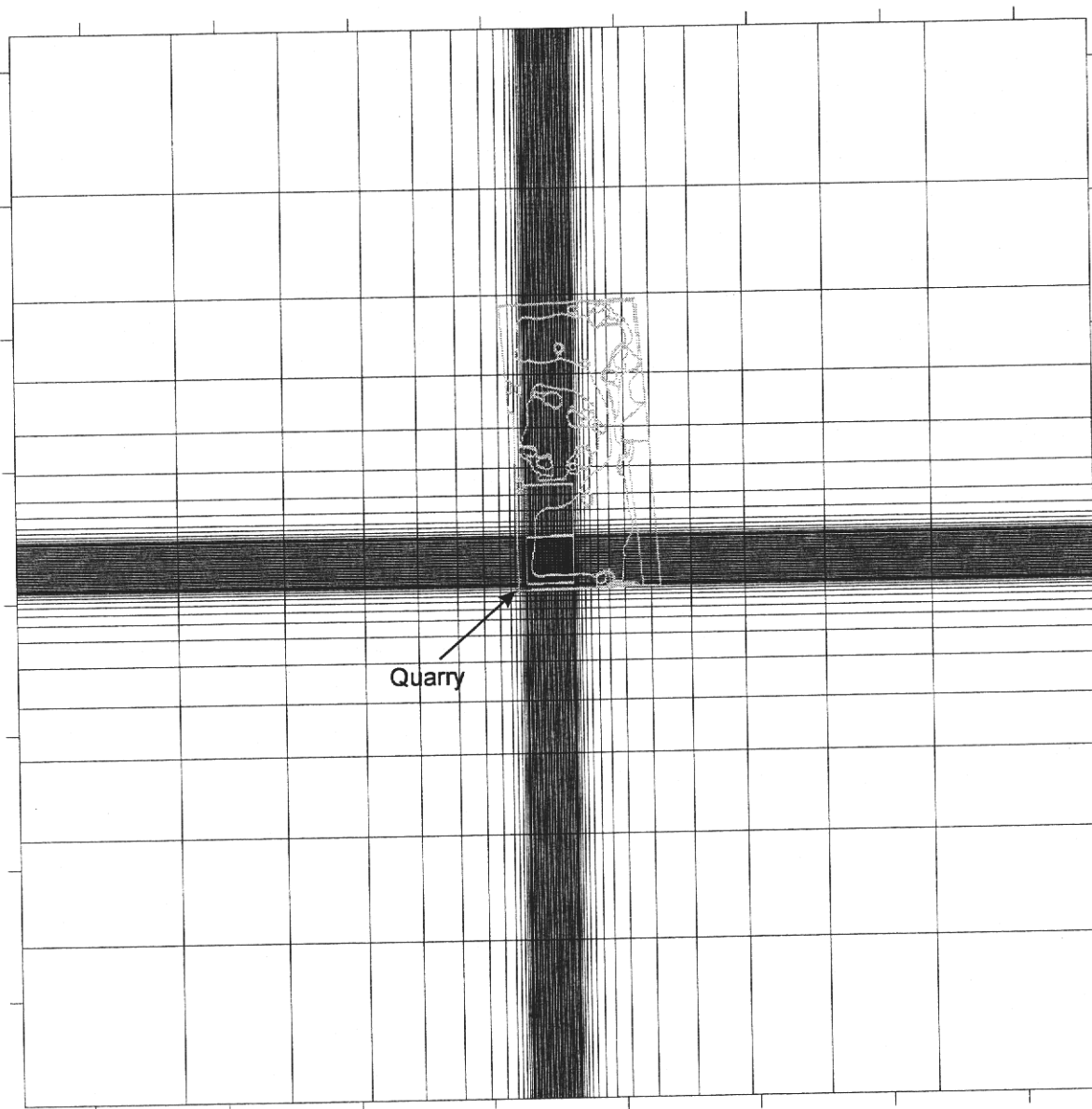


FIGURE 2. SCHEMATIC DIAGRAM SHOWING MODEL LAYERS (NOT TO SCALE).





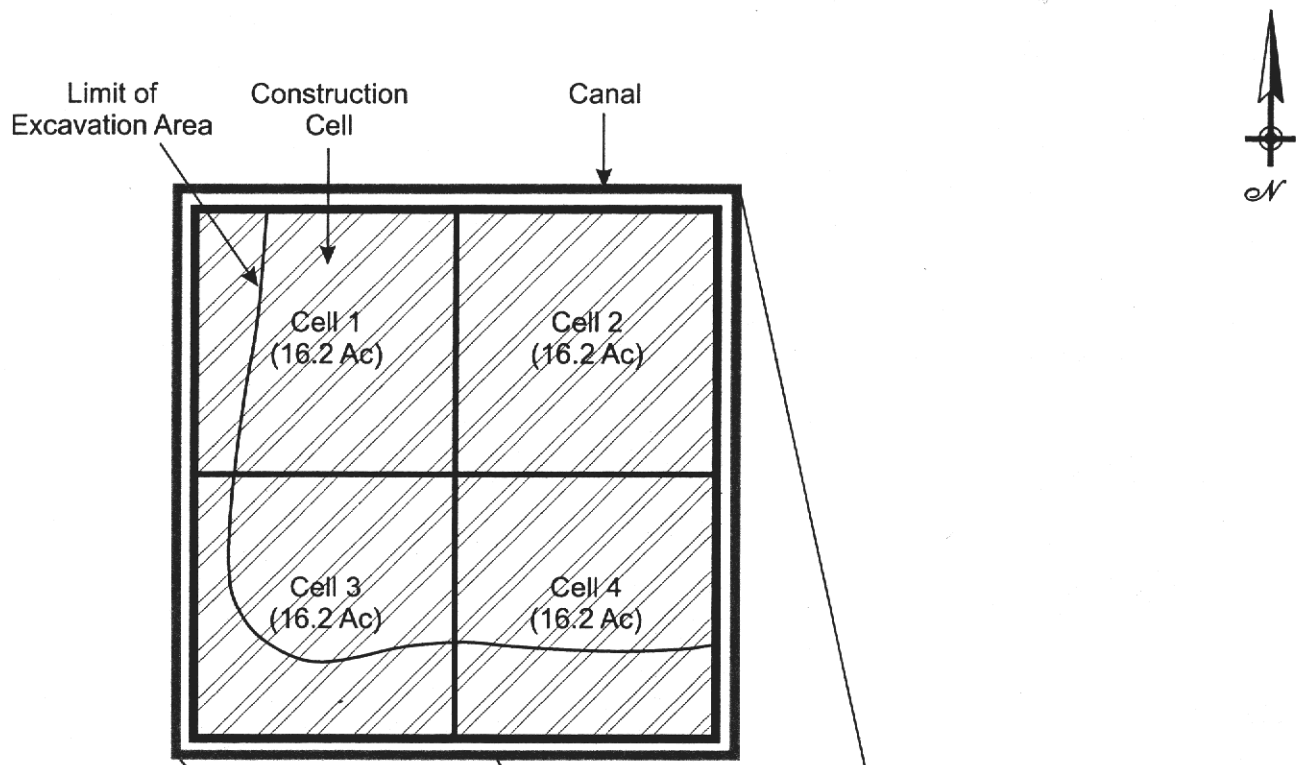
Scale (feet)  
0 5000 10,000



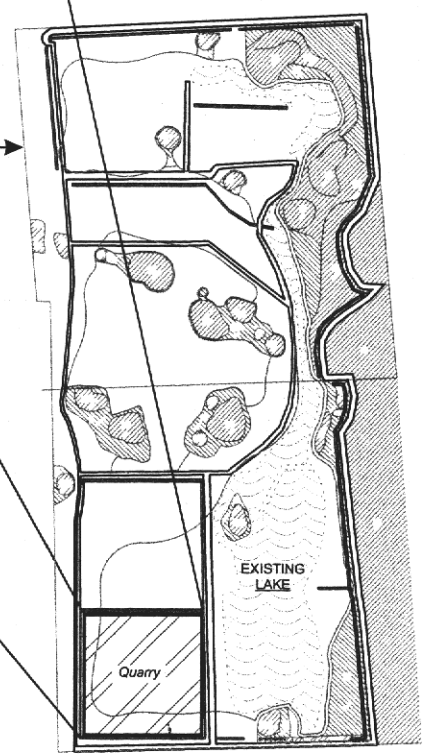
Pr. Name: BONITA GRANDE SAND CO.  
Pr. No. FH00-1153 Date: 1/2/01  
DWG No. MESH.CDR Rev. No.

GROUNDWATER  
AND  
ENVIRONMENTAL SERVICES

FIGURE 3. SITE LOCATION AND MODEL GRID.



PROPERTY BOUNDARY



**KEY**

- Canal/Infiltration Trench
- Road
- Preserve/Mitigation Areas

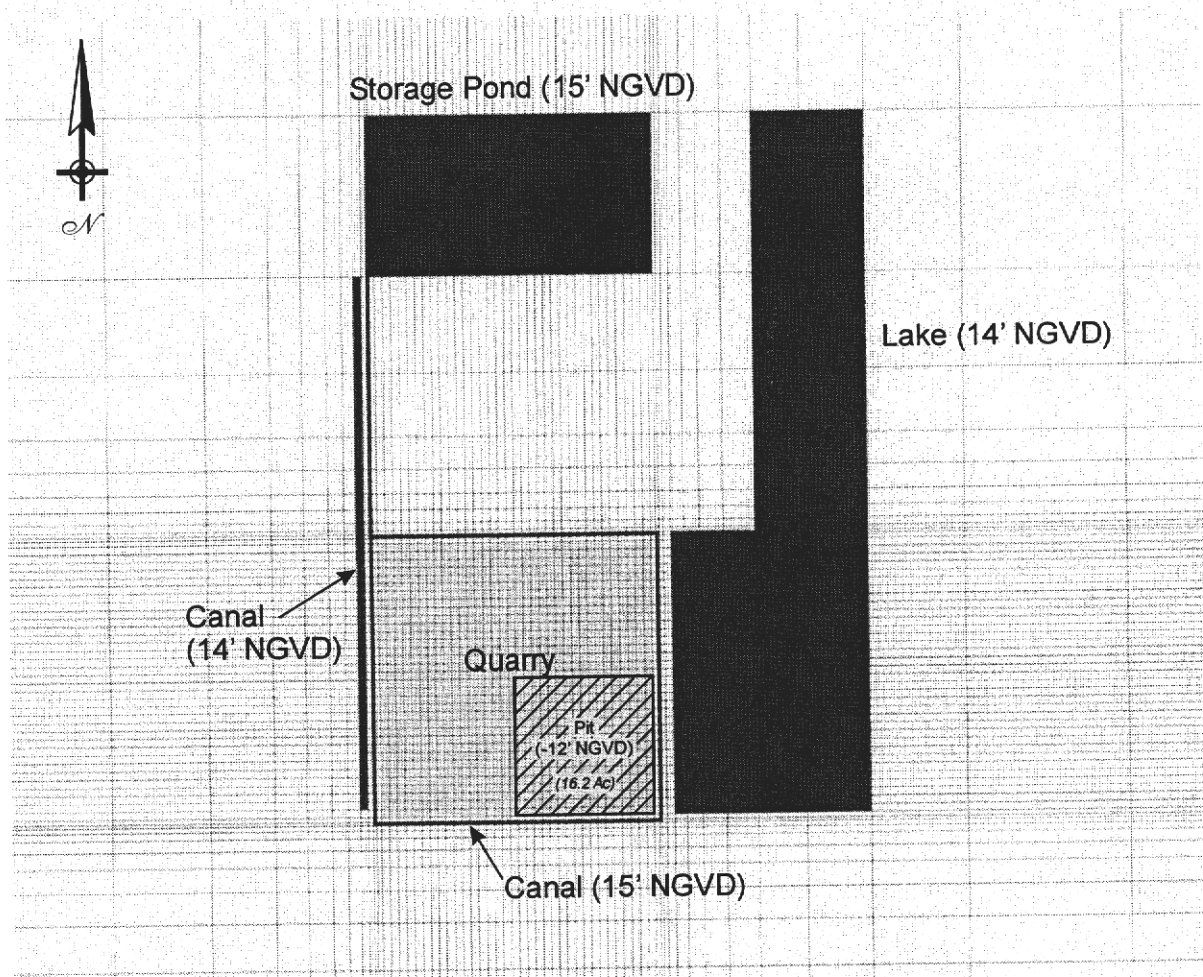


Pr. Name: BONITA GRANDE SAND CO.  
 Pr. No. FH00-1153 Date: 3/1/01  
 DWG No. SITMAP1 Rev. No.

GROUNDWATER  
AND  
ENVIRONMENTAL SERVICES

FIGURE 1. SITE MAP SHOWING CONSTRUCTION CELLS AND TRANSVEYANCE DITCHES.

**EXHIBIT**



# KEY

- Surface Water Body with Constant Head
- Quarry (64.8 acres)

Scale  
0 1500  
(feet)

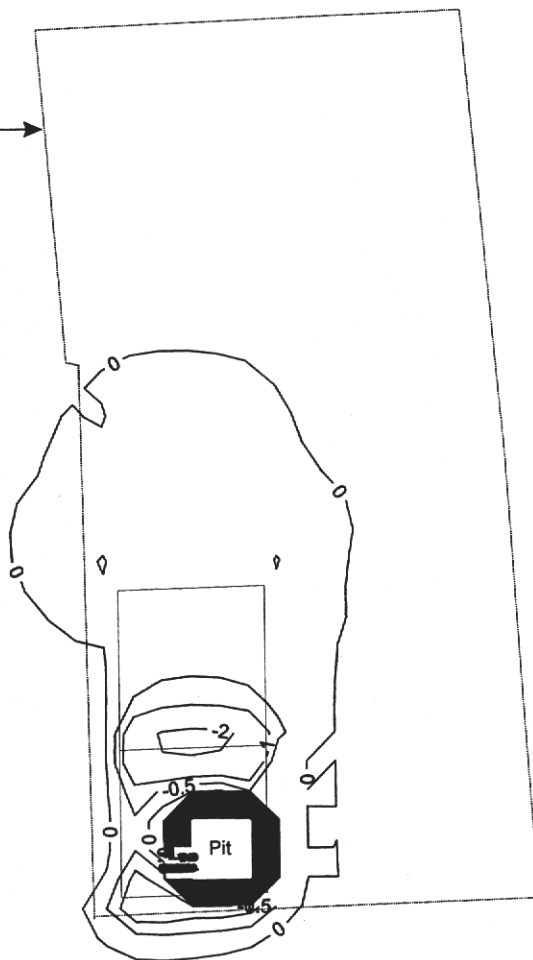
**M** **MISSIMER**  
INTERNATIONAL, INC.

Pr. Name: BONITA GRANDE SAND CO.  
Pr. No. FH00-1153 Date: 1/9/01  
DWG No. BC.CDR Rev. No.

GROUNDWATER  
AND  
ENVIRONMENTAL SERVICES

FIGURE 5. LOCATION OF SURFACE WATER BODIES IN THE VICINITY OF THE QUARRY. ALSO INCLUDED ARE THE STARTING HEADS USED FOR MODEL SCENARIO 1 (PUMPAGE CALCULATIONS).

Property Boundary →



**KEY**

— 0 — Change in Head (ft)



**SCALE**



Pr. Name: BONITA GRANDE SAND CO

Pr. No. FH00-1153

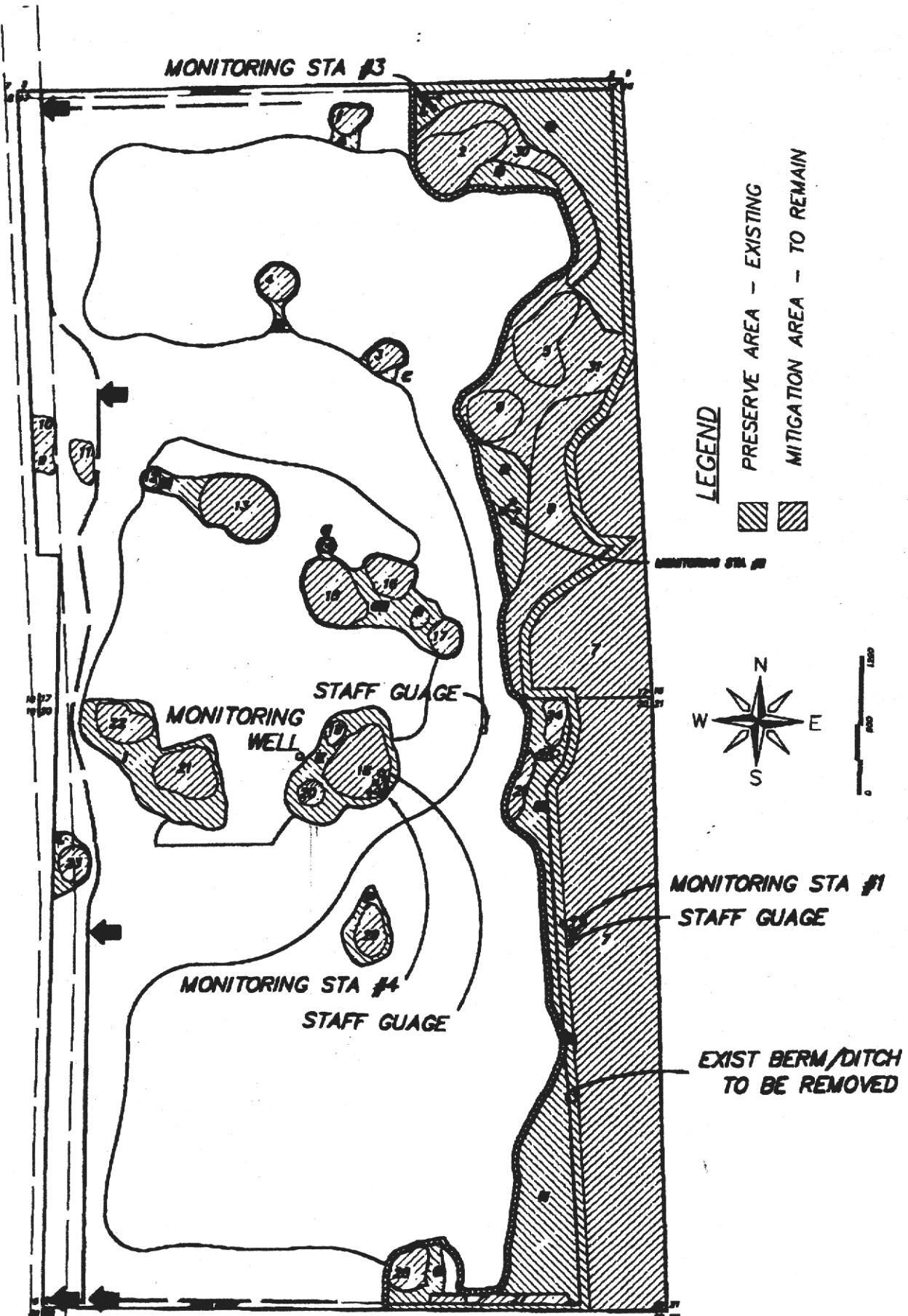
Date: 1/10/01

DWG No. DD1\_75

Rev. No.

GROUNDWATER  
AND  
ENVIRONMENTAL SERVICES

FIGURE 6. MODEL CALCULATED CHANGE IN HEAD (FT) FOR ONE QUARTER SECTION OF THE MINING OPERATION UNDER STEADY STATE CONDITIONS. 7.5 MGD IS ADDED BACK TO THE SURROUNDING SURFACE WATER BODIES.



# BONITA FARMS I AND II

## STAFF REPORT DISTRIBUTION LIST

**PROJECT: BONITA GRANDE SAND COMPANY**  
**APPLICANT: BONITA GRANDE SAND COMPANY**

**APPLICATION NO. 000726-11**  
**PERMIT NO. 36-01023-W**

### INTERNAL DISTRIBUTION

Reviewer:

X Jeffery Scott

- X R. Mireau
- A. Waterhouse - REG
- L. Werst - FTM
- Director, Big Cypress Basin
- X WU Compliance - Lori Burke
- X Well Construction Permitting
- X Office of Counsel
- X Permit File

### GOVERNING BOARD MEMBERS

Ms. Pamela Brooks-Thomas  
Mr. Michael Collins  
Mr. Hugh English  
Mr. Gerardo B. Fernandez  
Dr. Patrick J. Gleason  
Mr. Nicolas Gutierrez  
Mr. Lennart Lindahl  
Mr. Harkley R. Thornton  
Ms. Trudi K. Williams

### DEPT. OF ENVIRONMENTAL PROTECTION

- X Ft. Myers

### EXTERNAL DISTRIBUTION

X Applicant's Agent:  
MISSIMER INTERNATIONAL INC

X Engineer, County of:  
Lee

X Engineer, County of:  
Lee

Engineer, City of:

Engineer, City of:

Local Drainage District:

Local Drainage District:

Building Dept., County of:

Building Dept., County of:

Building Dept., City of:

Building Dept., City of:

### COUNTY

- X Lee -Codes & Building Services
- Dept of Environmental Protection
- Development & Review
- Environmental Sciences
- Henry J. McCoy, Hydrogeologist
- Mosquito Control

### BUILDING AND ZONING

#### OTHER

- X Clara Anne Graham-Elliott
- X Div of Recreation and Park - District 8
- X Florida Fish & Wildlife Conservation Commission
- X Lee County HRS
- X Lee County Regional Water Supply Authority
- X Mr. Ed Carlson, Mgr., Nat. Audubon Soc.
- X Nancy Anne Payton
- X S.W.F.R.P.C. - Glenn Heath
- X Utilities Division